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| 10/799,599 | 03/15/2004 | Sung-hee Hwang | 1293.1865 | 8270 |

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STEIN, MCEWEN & BUI, LLP
1400 EYE STREET, NW
SUITE 300
WASHINGTON, DC 20005

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| EXAMINER |
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BIBBINS, LATANYA

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| ART UNIT | PAPER NUMBER |
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2627

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05/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/799,599

Applicant(s)

HWANG ET AL.

Examiner

LaTanya Bibbins

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☒ This action is **FINAL**: 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 16-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In the remarks filed on March 12, 2007, Applicant amended claims 1-4 and 16-18, cancelled claims 29-35 and 39-43, and submitted arguments for allowability of pending claims 1-7 and 16-21.

Terminal Disclaimer

2. The terminal disclaimer filed on March 12, 2007 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

3. Applicant's arguments, see the third paragraph of page 5, filed March 12, 2007, with respect to the objection to the drawings under 37 CFR 1.83(a) have been fully considered and are persuasive. The objection to the drawings has been withdrawn.

4. Applicant's arguments, with respect to claims 1 and 16, filed March 12, 2007, have been fully considered but they are not persuasive.

Applicant argues that the Takahashi reference teaches position information regarding the defect area is stored in the lead-in or the lead-out area contrary to Applicant's invention, which stores position information regarding the defective area in the replacement area, which is part of a spare area inside a data area disposed between a lead-in and lead-out area. However, as illustrated in Figure 5 and described in paragraphs [0074] and [0075] of the Takahashi reference, the DMA reserved area (i.e. the replacement area), "which may be arranged in the spare area," contains a

Art Unit: 2627

plurality of PDLs and SDLs which suggests to one of ordinary skill in the art that the position information is in fact stored in the replacement area.

5. Applicant's arguments with respect to claim 4 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-3, 5-7, 16, 17, and 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi (US PGPub No. 2002/0136537 A1).**

Regarding claim 1, Takahashi discloses a recording medium, comprising a data area disposed between a lead-in area and a lead-out area, including a user data area to record data, and at least a spare area having a replacement area to replace a defective area occurring in the user data area (see Figures 5 and 19 where both the data area and spare area are located between the inner and outer peripheries and the discussion in paragraph [0074] where the "DMA reserved area," i.e. the replacement area may be arranged in the spare area); and a defect management area (DMA) arranged in at least one of the lead-in area and the lead-out area, to store defect information identifying the

defective area and the replacement area (see the DMA areas of Figures 5 and 19 which are located in both the lead-in and lead-out areas and the discussion in paragraph [0073]), wherein position information regarding the defective area is recorded in the replacement area (see paragraphs [0074] and [0075] which describe the DMA ,which is located in the replacement area, containing PDLs and SDLs i.e. position information).

Regarding claim 2, Takahashi discloses the recording medium of claim 1, wherein the defect information includes defect management information to manage the defect information, and wherein the defect management information is updated in the defect management area (DMA) every recording operation or in response to a predetermined number of recording operations (see the discussion in paragraphs [0076], [0108] and [0109]).

Regarding claim 3, Takahashi the recording medium of claim 2, further comprising a temporary defect management area (TDMA) arranged in one of the lead-in area and the lead-out area in which temporary management information lastly updated is recorded (see paragraph [0109] where DMA position 1 and DMA position 2 are rewritten to reflect the information regarding the DMA).

Regarding claim 5, Takahashi discloses the recording medium of claim 1, wherein state information regarding the defective area is recorded in the replacement area (see paragraphs [0074] and [0075] where the DMA contains PDLs and SDLs).

Regarding claim 6, Takahashi discloses the recording medium of claim 5, wherein the position information and state information regarding the defective area are error-correction code (ECC) encoded during ECC encoding of data recorded in the

replacement area (see Figure 4 and paragraph [0066] where data is recorded in ECC format).

Regarding claim 7, Takahashi discloses the recording medium of claim 5, wherein ECC encoded data and the position information and state information are recorded in the replacement area (see Figure 4 and paragraph [0066] where data is recorded in ECC format).

Regarding claim 16, Takahashi discloses an apparatus, comprising: a recording/reading unit to record/read data with respect to a recording medium comprising a data area disposed between a lead-in area and a lead-out area, including a user data area and at least a spare area having a replacement area to replace a defective area occurring in the user data area; and a defect management area (DMA) arranged in one of the lead-in area and lead-out area (see the pick up head of Figure 12 element 203 and Figures 5 and 19 where both the data area and spare area are located between the inner and outer peripheries and the discussion in paragraph [0074] where the "DMA reserved area," i.e. the replacement area may be arranged in the spare area, also the DMA areas of Figures 5 and 19 which are located in both the lead-in and lead-out areas and the discussion in paragraph [0073]); and a controller arranged to control the recording/reading unit to record data on the replacement area, for the defective area of the recording medium, in the spare area of the recording medium (see the main control section of Figure 12 element 210, the description of the functions of the main control section in paragraphs [0100] and [0102], Figures 5 and 19, and the discussion in paragraph [0074] where the "DMA reserved area," i.e. the replacement area may be

arranged in the spare area), to record defect information identifying the defective area and the replacement area in the defect management area (DMA) (see the DMA areas of Figures 5 and 19 and the discussion in paragraph [0073] regarding defect management information in the DMA), and to record position information regarding the defective area in the replacement area (see paragraphs [0074] and [0075] which describe the DMA ,which is located in the replacement area, containing PDLs and SDLs i.e. position information).

Regarding claim 17, Takahashi discloses the apparatus of claim 16, wherein the defect information in the defect management area (DMA) includes temporary defect management information to manage the defect information (see the discussion in paragraphs [0076], [0108] and [0109]).

Regarding claim 19, Takahashi discloses the apparatus of claim 16, wherein the controller controls the recording/reading unit to record state information regarding the defective area in the replacement area (see paragraphs [0074] and [0075] where the DMA contains PDLs and SDLs).

Regarding claim 20, Takahashi discloses the apparatus of claim 19, wherein the controller controls the recording/reading unit to ECC encode the position information and the state information with data to be recorded in the replacement area (see Figure 4 and paragraph [0066] where data is recorded in ECC format).

Regarding claim 21, Takahashi discloses the apparatus of claim 19, wherein the controller controls the recording/reading unit to record the position information and state

information and ECC encoded data in the replacement area (see Figure 4 and paragraph [0066] where data is recorded in ECC format).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. ***Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US PGPub No. 2002/0136537 A1) in view of Park (USPGPub Number 2005/0022072 A1).***

Regarding claim 4, Takahashi discloses the recording medium of claim 2, as noted in the 35 U.S.C. 102(e) rejection above, but does not disclose that the defect information includes a space bit map (SBM) to provide information for differentiating available clusters from unavailable clusters on the recording. Park, however, discloses defect information including a space bit map (SBM) to provide information for differentiating available clusters from unavailable clusters on the recording (see paragraphs [0011]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the space bit map into the defect information as taught by Park into the recording medium of Takahashi. One of ordinary skill in the art at the time the invention was made would have been motivated to

combine the teachings in order to provide information on a recording status of the data area during a random recording mode (Park paragraph [0011]).

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US PGPub No. 2002/0136537 A1).

Regarding claim 18, Takahashi teaches the apparatus of claim 16, wherein the controller controls the recording/reading unit to record defect information lastly recorded in the defect management area (DMA) (see paragraph [0109] where DMA position 1 and DMA position 2 are rewritten to reflect the information regarding the DMA). However, Takahashi fails to teach that the recording of temporary management information occurs during a finalizing of the recording medium.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to record the temporary management information in a defect management area during finalization of the recording medium. One of ordinary skill in the art at the time the invention was made would have been motivated to do so in order to duplicate and preserve the temporary management information recorded in the temporary defect management area.

Conclusion

11. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Art Unit: 2627

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


LaTanya Bibbins


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER